

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A plate heat exchanger adapted to exchange heat between at least one high temperature fluid and at least one cooling fluid comprising a plurality of stacked heat exchanger plates, ~~(21, 31)~~ each plate ~~of which~~ comprising: (a) an inlet opening ~~(3)~~ for the high temperature fluid, (b) an outlet opening ~~(4)~~ for ~~a~~ the cooling fluid, (c) an outlet opening ~~(5)~~ for the high temperature fluid and (d) an inlet opening ~~(6)~~ for the cooling fluid, the stacked heat exchanger plates limiting channels for at least two heat exchanging fluids, and ~~in which~~ pairs of said plates limiting channels for a cooling fluid are soldered together along contact areas ~~(10)~~ to form flanges extending into the inlet of ~~the~~ flow of the high temperature fluid, ~~characterised in that~~ wherein two separate channels ~~(23, 26)~~ for ~~a~~ the cooling fluid are provided adjacent to said contact areas ~~(10)~~ forming a flange extending into the flow of said high temperature fluid passing through the inlet opening ~~(3)~~, ~~the~~ said two separate channels ~~(23, 26)~~ for the cooling fluid being provided with a common inlet ~~(24)~~, and with a common outlet ~~(25)~~, the ~~said~~ common inlet ~~(24)~~ being located at a higher flow pressure position than that of the said common outlet

~~(25)~~, one ~~(23)~~ of the said channels ~~(23, 26)~~ being partly limited by a pressed ridge ~~(22)~~ in one ~~(21)~~ of the ~~said~~ plates ~~(21, 31)~~ forming said pairs of plates limiting said channels for the cooling fluid, ~~the~~ said pressed ridge ~~(22)~~ being adapted to contact a corresponding ridge ~~(32)~~ on the ~~other~~ another plate ~~(31)~~ in said pair ~~(21, 31)~~ of plates, ~~the~~ said one channel ~~(23)~~ adjacent to ~~the~~ said pressed ridge ~~(22)~~ having less height than ~~the~~ said pressed ridge ~~(22)~~.

2. (Currently Amended) A plate heat exchanger according to claim 1, ~~characterised in that~~ wherein in each heat exchanger plate, ~~the~~ said inlet opening ~~(3)~~ for the ~~said~~ flow of the high temperature fluid is of a larger area than that of the outlet opening ~~(5)~~ for said high temperature fluid.

3. (Currently Amended) A plate heat exchanger according to claim 1 ~~or 2, characterised in that it is adapted for a gas as~~ wherein said high temperature fluid is a gas.

4. (Currently Amended) A plate heat exchanger according to ~~any of the claims 1-3, characterised in that~~ claim 1, wherein each said heat exchanger plate is ~~of~~ generally substantially rectangular in shape and ~~that the inlets~~ each said inlet opening and each said outlet ~~openings~~

~~(3-6)~~ opening for the each said heat exchanging fluids are
fluid is placed near ~~the~~ corners thereof.

5. (Currently Amended) A plate heat exchanger according to claim 1, ~~characterised in that it~~ wherein said heat exchanger is designed for three heat exchanging fluids: (i) one ~~heating~~, high temperature heating fluid and (ii) two cooling fluids. ~~(Figure 7).~~

6. (Currently Amended) A plate heat exchanger according to claim 5, ~~characterised in that~~ wherein the inlet opening ~~(3)~~ of the heating fluid ~~has been placed is~~ positioned remote from the inlet ~~(6)~~ opening and ~~from the~~ outlet ~~(4)~~ opening for one of the two cooling fluids. ~~(Fig. 9).~~

7. (Currently Amended) A plate heat exchanger according to claim 1, ~~characterised in that it has been~~ wherein said heat exchanger is designed for three heat exchanging fluids: (i) two heating fluids and (ii) one cooling fluid, the inlet opening ~~(3, 3')~~ and the outlet ~~(5, 5')~~ openings opening for the two heating fluids being placed positioned on both sides of the ~~openings~~ ~~(4, 6)~~ inlet opening and the outlet opening for the cooling fluid. ~~(Fig. 11)~~

8. (New) A plate heat exchanger according to claim 2, wherein said high temperature fluid is a gas.